



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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December 17, 1985

TO: Loren Morton, Department of Health, Bureau of Water
Pollution Control

FROM: Pamela Grubaugh-Littig, Reclamation Engineer *pgl*

RE: Shaft Abandonment, Texasgulf, Cane Creek Mine,
ACT/019/005, Grand County, Utah

This memo is an updated and revised version of the shaft abandonment comments I sent to you on December 3, 1985. The comments about the bond estimate are as follows:

1. The Division of Oil, Gas and Mining (DOGM) references the Rental Rate Bluebook and the Means Index (for labor and other costs). Most of the costs were comparable. However, the labor rates were low.

Operator (medium) = \$29.85
Operator (light) = \$27.55
Foreman = \$32.85
Truck Rental = \$66.88/hr

2. The cement sack requirements were low. Assume 1.18 cf/sack of cement:

Shaft #1 - 38,013 cf (22 ft diameter x 100 feet height) required or 32,215 sacks of cement (six days required).

Shaft #2 - 1,256 cf or 1,065 sacks of cement (one day required).

3. The cost per cubic yard (cy) of gravel in place was changed to \$3.92/cy vs \$2.98/cy (change in labor rates).
4. Several arithmetic errors were corrected.

5. Revised totals for the shafts were:

Shaft #1 - Total for Removing Salt =	\$128,620.00
Total Cost for Gravel =	\$129,572.00
Total Cementing Costs =	\$196,738.00
Gravel Refill =	\$ 11,957.00
Total Cost for Plugging Shaft #1 =	<u>\$466,887.00</u>

Shaft #2 - Total Cost for Gravel =	\$ 7,306.00
Total Cementing Costs =	\$10,618.00
Gravel Refill =	\$ 532.00
Total Cost for Plugging Shaft #2 =	<u>\$18,456.00</u>

6. The existing cement cover should be shown for Shaft #2 on the exhibit.

7. The abandonment plan for the #1 shaft contained information about the solution mining of salt. You gave me information (density of brine = 1.232) that changed the hp requirements to 410 hp. Therefore, the pump requirement varied slightly on page 4 (solution mine salt plug #1 shaft). Make the assumption that 50 hp pump would be added to the 2-200 hp diesel pumps. No data were available in the Blue Book or Means. Therefore, the following assumptions were made:

A. 1-50 hp pump costs \$500 to set up.

B. Rental on the 50-hp pump was \$50/day.

If you have any further comments, please let me know.

btb

cc: John Whitehead
9075R-21 & 22